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## PATENT SPECIFICATION

498,228



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### COMPLETE SPECIFICATION

#### Improvements in and relating to Massage Apparatus

We, FRITZ PETERS, of No. 20, Turinerstrasse, Berlin, Germany, and RICHARD KUHLSCH, of No. 60, Warmbaderstrasse, Berlin-Karlshorst, Germany, both of German Nationality, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to apparatus for mechanical massage. Apparatus according to the invention comprises a cylindrical casing having a frame-like hollow foot and carrying near its lower end a transverse pivot pin on which a cylindrical massage-tool carrier is loosely mounted, the lower end of the carrier projecting from the lower end of the casing, and being secured to the centre of a laterally arranged strip on which massage bodies are adjustably mounted one at each end, a piston being reciprocally mounted in the upper end of the cylindrical carrier and moved up and down therein by an eccentric pin driven by an electric motor.

Fig. 1 of the accompanying drawings is a section on line I—I of Fig. 2.

Fig. 2 shows in side elevation the massage apparatus partly in vertical section, the beating lever with the massage bodies in its ends being shown in oscillated position.

Fig. 3 is a section on line III—III of Fig. 2 partly in elevation.

Fig. 4 shows in side elevation partly in section the carrier of the massage body constructed as hollow axle.

Fig. 5 is a cross-section taken at the right hand end of Fig. 4.

Fig. 6 shows the piston in section.

Fig. 7 shows a dot massage body adapted to be screwed into the piston mounted in the cylindrical carrier shown in Fig. 2.

Fig. 8 shows a support with electro-motor and massage apparatus.

The massage apparatus consists of a cylindrical casing 1 closed at the top end by a plate 2 screwed in. The bottom plate 3 is rather thick and has a central bore 4 and a horizontal bore 5 extending

right through the wall of the casing 1 from one side to the other side. Into one end of this horizontal bore, the outer ends of which are internally screw-threaded, the externally screw-threaded head of a pin 6 is screwed, and in the opposite end of bore 5 an externally screw-threaded bushing 7 is screwed into which pin 6 engages. This pin 6 is stepped several times and carries a cylindrical carrier 8. On the lower end of this carrier 8 a strip or lever 9 is fixed in the manner hereinafter described which lever has two longitudinal slots 10, in each of which a massage body 11 is adjustably mounted and secured in the adjusted position by means of a nut.

In the upper part of the cylindrical carrier 8 a piston 12 is mounted so that it can move up and down in the carrier 8 and communicate to this carrier 8 an oscillating movement. This piston 12 is suspended on a pin 13 eccentrically mounted in a cylindrical body 14, driven by a flexible shaft 15 from an electro-motor 16. This electro-motor is mounted on the top end of a stand 17, on which the massage apparatus can be suspended by means of a clip 18, if it is not in operation. The eccentrically mounted pin 13 extends through a slot 19 in the wall of the cylindrical carrier 8. When the cylindrical body 14 is rotated by the flexible shaft 15 its eccentric pin 13 moves the piston 12 up and down in the upper end of the cylindrical carrier 8 and oscillates this carrier in lateral direction. A rectangular hollow, frame shaped foot 20 carries this cylindrical casing 1, and the beating lever 9 with the massage bodies 11 is located in the frame. The beating lever 9 is made of spring steel. The cylindrical casing 1 is partly filled with insulating rings 21 of soft elastic material such as sponge rubber and designed to deaden the noise of the driving elements driven at high speed. These sponge rubber rings 21 cannot impede the oscillation of the carrier 8 of the massage lever. Premature wear of the piston 12 is prevented by the peculiar mounting of the carrier 8 and, even if such wear should occur, it cannot have

any prejudicial influence upon the operation of the massage apparatus. If, in the course of time, wear of piston 12 should occur, the only effect can be that the radius of the range of oscillation of the cylindrical carrier 8 is slightly enlarged.

The carrier 8 has an axial bore 8a at its upper end in which the piston 12 is reciprocable and the wall of this bored portion is cut away from its upper edge downwards to form the slot 19 for the passage of the eccentric pin 13, extending into a transverse bore in the upper end of the piston 12. This piston has a bore with an internal screw-thread at its lower end into which an internally and externally threaded nipple 12b (Fig. 6, is screwed and closed by the screw plug 24.

The carrier has in its lower end an axial bore 8b of smaller diameter than and extending into the bore 8a. An externally threaded neck 8c projects from the lower end of the carrier 8 and the knocking lever 9 has a hole at an intermediate part of its length to receive the neck 8c, the lever 9 being then clamped in position by a nut 8d screwed on to the neck 8c.

If the apparatus is to massage at three points simultaneously the pivot pin 6 is removed, the plug 24 is unscrewed from the nipple 12b and the screw-threaded upper end 23 of the rod 22 (Fig. 7) screwed into this nipple instead of the plug 24. The pivot pin 6 is then replaced being threaded through the eye 25 into the bush 7.

The rod 22 connected to the massage head 27 by a blade spring 26 will then participate in the movements of the piston 12 and carrier 8, thereby imparting light blows.

The casing 1 has a horizontal tubular extension 28 concentric with the cylindrical body 14 and through which the flexible shaft 15 extends to be attached to this cylindrical body. A handle 29 is attached to this tubular extension if desired. The operation of the massage apparatus is as follows:—

The casing 1 with the frame-shaped foot 20 is removed from clip 18 of the stand 17, and the electro-motor switched in. The cylindrical body 14 is rapidly rotated by the flexible shaft 15 and moves the piston 12 in a circular path by means of the eccentric pin 13. By this movement of piston 12 an oscillating movement is communicated to the cylindrical carrier 8 and through the same to the lever 9 which oscillates so that the massage bodies 11 knock rapidly on the part of the body to be massaged. If rod

22 is screwed into the piston 12 an up and down movement is communicated from the piston also to this rod so that its massage body 27 moves up and down and exerts a dot massage.

The driving of the massage elements proper and the mounting of the driving elements in a casing which has a frame-shaped foot for the beating lever presents in comparison with known arrangements the advantage that elements of the carrier of the massage body which have been worn can easily be interchanged by anyone not skilled in the art.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1.—Apparatus for mechanical massage comprising a cylindrical casing having a frame-like hollow foot and carrying near its lower end a transverse pivot pin on which a cylindrical massage-tool carrier is loosely mounted, the lower end of the carrier projecting from the lower end of the casing, and being secured to the centre of a laterally arranged strip on which massage bodies are adjustably mounted one at each end, a piston being reciprocally mounted in the upper end of the cylindrical carrier and moved up and down therein by an eccentric pin driven by an electric motor.

2.—A massage apparatus as claimed in claim 1, characterized in that the pivot pin on which the carrier is mounted is stepped, its head fits in a transverse bore in one side of the casing whereas its point engages in a screw threaded bush screwed into a continuation of this bore on the opposite side of the case.

3.—A massage apparatus as claimed in claim 1, characterized in that a slot through which the eccentric pin passes extends downwards from the upper edge of the carrier to allow the reciprocation of the piston within the carrier.

4.—A massage apparatus as claimed in claim 1, characterized in that the strip carrying the massage bodies is of spring steel and has two longitudinal slots in each of which one of the massage bodies is adjustably mounted.

5.—A massage apparatus as claimed in claim 1, characterized in that a rod carrying a massage body at its lower end is passed through a central bore in the lower end of the carrier and its upper screw threaded end is screwed into a screw threaded bush fitted in the lower end of the piston, so that this massage body is situated intermediate the two massage bodies on the lateral strip and partici-

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pates in the up and down movement of the piston during the oscillation of the carrier.

6.—A massage apparatus as claimed in  
5 claim 1, characterized in that rings of  
sponge rubber are fitted in the casing to  
deaden the noise of the working elements  
driven at high speed without however  
impeding the oscillating movement of the  
10 carrier and consequently of the beating  
lever.

Dated this 26th day of June, 1937.

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Reference has been directed, in pursu-  
ance of Section 7, Sub-section (4), of the  
Patents and Designs Acts, 1907 to 1938,  
to Specification No. 19032 of 1910.

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[This Drawing is a reproduction of the Original on a reduced scale.]

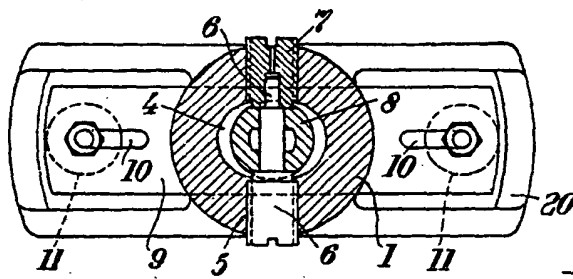


Fig. 1

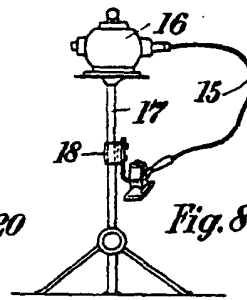


Fig. 8

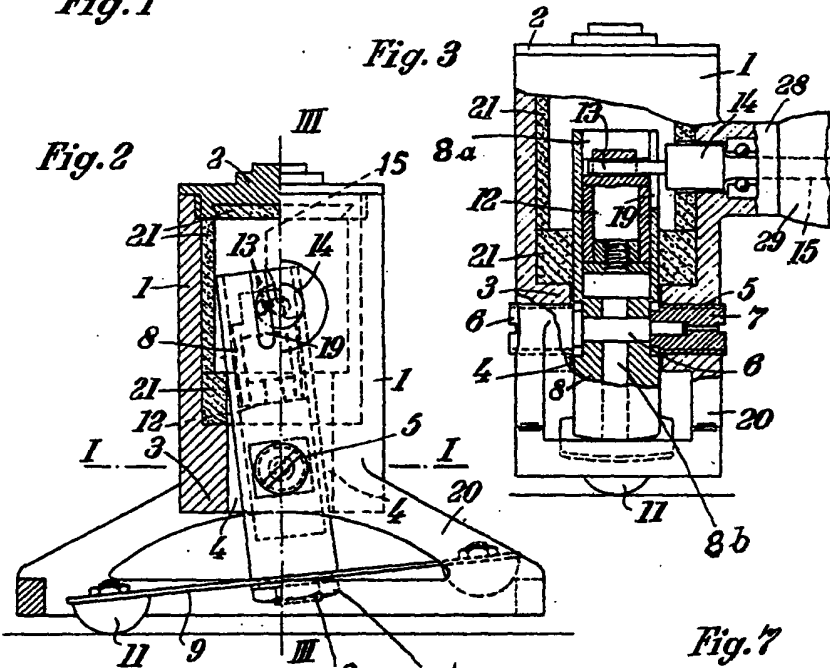


Fig. 2

Fig. 3

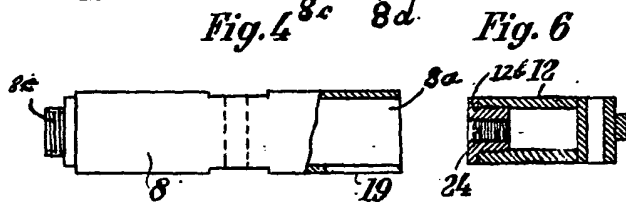


Fig. 4

Fig. 5

Fig. 6

Fig. 7

